

O B S. XVII.

If a Bubble be blown with Water first made tenacious by dissolving a little Soap in it, 'tis a common Observation, that after a while it will appear tinged with a great variety of Colours. To defend these Bubbles from being agitated by the external Air (whereby their Colours are irregularly moved one among another, so that no accurate Observation can be made of them,) as soon as I had blown any of them I covered it with a clear Glass, and by that means its Colours emerged in a very regular order, like so many concentrick Rings incompassing the top of the Bubble. And as the Bubble grew thinner by the continual subsiding of the Water, these Rings dilated slowly and over-spread the whole Bubble, descending in order to the bottom of it, where they vanished successively. In the mean while, after all the Colours were emerged at the top, there grew in the Center of the Rings a small round black Spot, like that in the first Observation, which continually dilated it self till it became sometimes more than $\frac{1}{2}$ or $\frac{3}{4}$ of an Inch in breadth before the Bubble broke. At first I thought there had been no Light reflected from the Water in that place, but observing it more curiously, I saw within it several smaller round Spots, which appeared much blacker and darker than the rest, whereby I knew that there was some reflexion at the other places which were not so dark as those Spots. And by further tryal I found that I could see the Images of some things (as of a Candle or the Sun) very faintly reflected, not only from the great black Spot, but also

also from the little darker Spots which were within it.

Besides the aforesaid coloured Rings there would often appear small Spots of Colours, ascending and descending up and down the sides of the Bubble, by reason of some inequalities in the subsiding of the Water. And sometimes small black Spots generated at the sides would ascend up to the larger black Spot at the top of the Bubble, and unite with it.

O B S. XVIII.

Because the Colours of these Bubbles were more extended and lively than those of the Air thin'd between two Glasses, and so more easy to be distinguished, I shall here give you a further description of their order, as they were observed in viewing them by reflexion of the Skies when of a white Colour, whilst a black Substance was placed behind the Bubble. And they were these, red, blue; red, blue; red, blue; red, green; red, yellow, green, blue, purple; red, yellow, green, blue, violet; red, yellow, white, blue, black.

The three first Successions of red and blue were very dilute and dirty, especially the first, where the red seemed in a manner to be white. Among these there was scarce any other Colour sensible besides red and blue, only the blues (and principally the second blue) inclined a little to green.

The fourth red was also dilute and dirty, but not so much as the former three; after that succeeded little or no yellow, but a copious green, which at first inclined a little to yellow, and then became a pretty brisque and